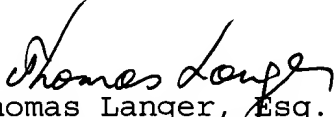


REMARKS

The claims have been amended to eliminate multiple dependencies and to remove reference numerals, according to U.S. format.

Respectfully submitted,


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Dated: April 16, 2001

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VERSION OF AMENDED CLAIMS SHOWING CHANGES MADE

1. (Amended) A chip [(5)] for a chip-containing portable article, in particular an article of card format, the chip comprising [firstly] a silicon substrate layer [(12)] whose active face [(13)] has circuits integrated therein defining a central processor unit and memories, and [secondly] an additional layer [(14)] of silicon covering at least part of said active face [(13)], [the chip being characterized in that it further comprises] and physical means [(17, 20, 21)] for providing physical protection against the action of electromagnetic radiation in the infrared range at a wavelength longer than 1 μm .

2. (Amended) A chip [(5)] according to claim 1, [characterized in that] wherein the physical means [(17, 20, 21)] are means providing physical protection against the action of electromagnetic radiation in the infrared range.

3. (Amended) A chip [(5)] according to claim 2, [characterized in that] wherein the physical means [(17, 20, 21)] are means providing physical protection against the action of electromagnetic radiation in the ultraviolet, visible, and infrared ranges.

4. (Amended) A chip [(5)] according to [any one of claims 1, 2, or 3] claim 1, [characterized in that] wherein the

additional silicon layer [(14)] is sealed to the active face [(13)] of the silicon substrate layer [(12)] by a sealing layer [(15)].

5 5. (Amended) A chip [(5)] according to [any preceding] claim 1, [characterized in that] wherein the physical means for providing physical protection against the action of electromagnetic radiation are silicon dopants [(17)].

6. (Amended) A chip [(5)] according to claim 5, [characterized in that] wherein the concentration of silicon dopants [(17)] lies in the range 10^{17} to 10^{20} atoms per cm^3 , and is preferably about 10^{19} atoms per cm^3 .

7. (Amended) A chip [(5)] according to claim 5 [or 6], [characterized in that] wherein the silicon dopants [(17)] are phosphorus or boron.

8. (Amended) A chip [(5)] according to [any one of claims 5, 6, or 7] claim 5, [characterized in that] wherein the silicon dopants [(17)] are present in the silicon substrate layer [(12)] in its portion remote from its active face [(13)].

9. (Amended) A chip [(5)] according to [any one of claims 5 to 8] claim 5, [characterized in that] wherein the silicon

dopants [(17)] are present in the additional silicon layer [(14)].

10. (Amended) A chip [(5)] according to [any preceding] claim 1, [characterized in that] wherein the physical means for providing physical protection against the action of electromagnetic radiation are formed by surface irregularities [(20)].

11. (Amended) A chip [(5)] according to claim 10, [characterized in that] wherein the surface irregularities [(20)] are formed in the rear face [(6)] of the silicon substrate layer [(12)] remote from its active face [(13)].

12. (Amended) A chip [(5)] according to claim 10 [or 11], [characterized in that] wherein the surface irregularities [(20)] are provided in the bottom face [(19)] of the additional layer [(14)].

13. (Amended) A chip [(5)] according to [any one of claims 10, 11, or 12] claim 10, [characterized in that] wherein the surface irregularities [(20)] are provided in the top face [(18)] of the additional layer [(14)].

14. (Amended) A chip [(5)] according to [any preceding] claim 1, [characterized in that] wherein the physical means for

providing physical protection against the action of
electromagnetic radiation are formed by at least one layer of
5 metal [(21)].

15. (Amended) A chip [(5)] according to claim 14,
[characterized in that] wherein the metal layer [(21)] has a
thickness greater than 50 Å[, and preferably of about 100 Å].

16. (Amended) A chip [(5)] according to claim 14 [or 15],
[characterized in that] wherein the metal layer [(21)] is placed
on the bottom face [(19)] of the additional layer [(14)].

17. (Amended) A chip [(5)] according to [any one of claims
14, 15, or 16] claim 14, [characterized in that] wherein the
metal layer [(21)] is placed on the top face [(18)] of the
additional layer [(14)].

18. (Amended) A chip [(5)] according to [any one of claims
14 to 17] claim 14, [characterized in that] wherein the metal
layer [(21)] is placed on the rear face [(6)] of the silicon
substrate layer [(12)].

5 19. A chip according to claim 16, wherein the metal layer
has a thickness of about 100 Å.

Attorney Docket No. 01213/TL

**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

Applicant(s): Robert LEYDIER and
Beatrice BONVALOT

Serial No.: To be assigned (U.S.
National Phase of
PCT/FR99/02428, filed
October 8, 1999

Filed: Concurrently herewith

For: INTEGRATED CIRCUIT CHIP MADE
SECURE AGAINST THE ACTION OF
ELECTROMAGNETIC RADIATION

Art Unit:

Examiner:

LETTER TO OFFICIAL DRAFTSPERSON

ATTENTION: BOX PCT
Assistant Commissioner for Patents
Washington, D.C. 20231

S I R :

Figs. 3A, 3B, 4A, 4C, 6A, 6C, 6D, 7A, 7C and 7D have been revised as shown in red on the drawings enclosed herewith. This has been done to conform the drawings to the specification. No new matter is involved.

Formal drawings will be submitted in the near future.

Approval of the revised drawings is respectfully solicited.

Respectfully submitted,

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OK SAK
Dated: April 16, 2001

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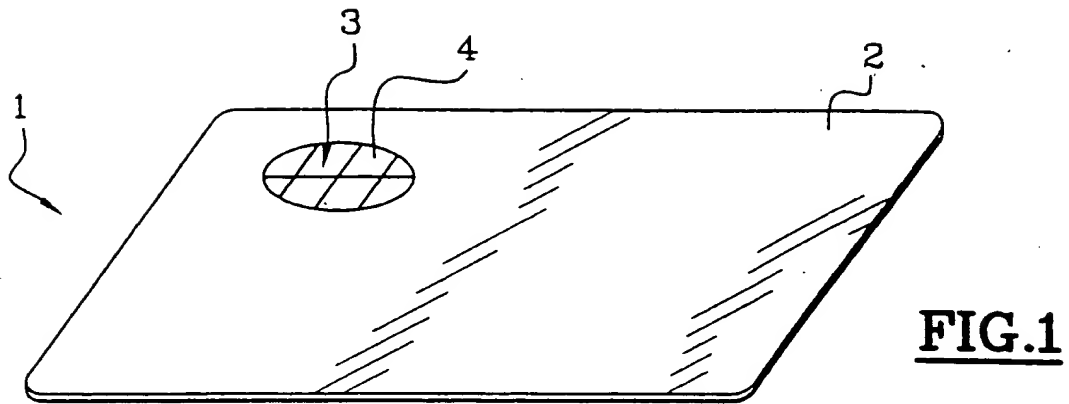


FIG. 2

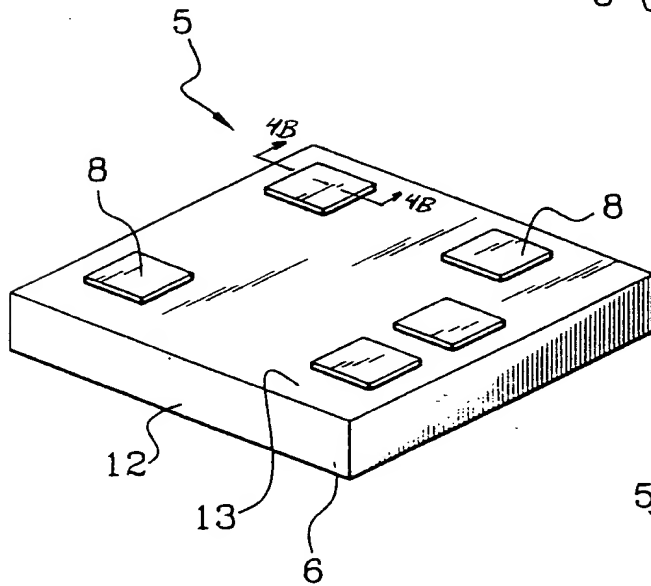
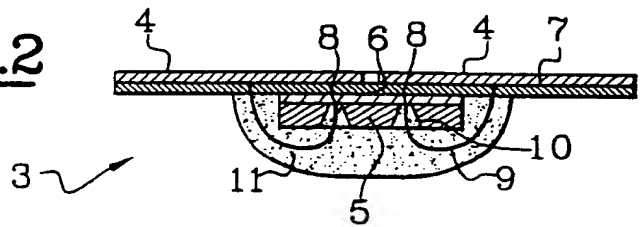


FIG. 3B

